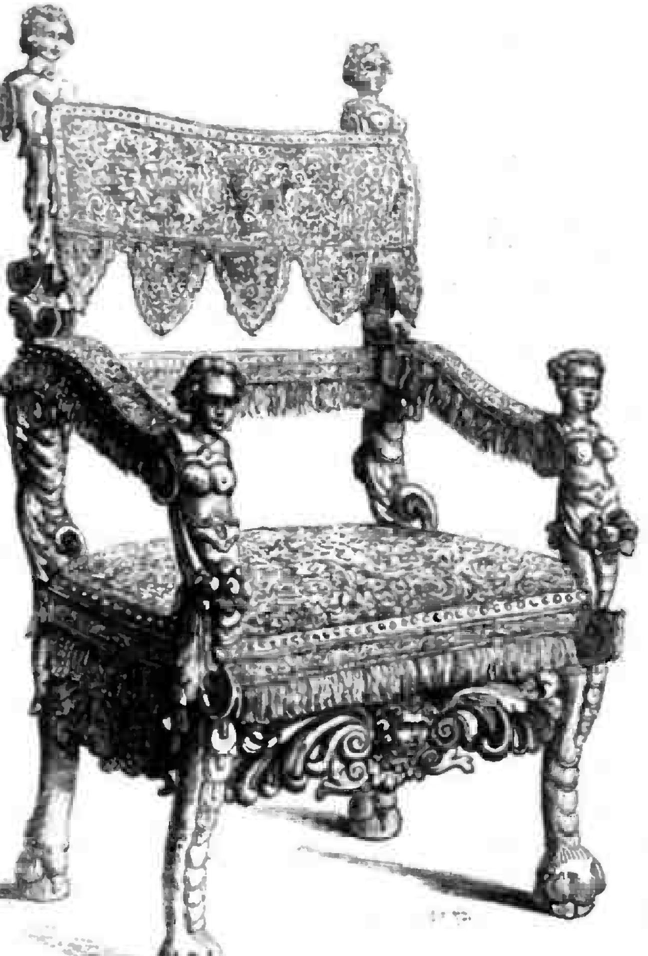
THE ELECTORAL CHAIR OF SAXONY AT THE PRYOR'S BANK, FULHAM.



THE above elegant specimen of a carved chair, drawn by Mr. C. J. Richardson, was brought into England from Germany by Messrs. Pratt, of Bond-street, and now belongs to Thomas Baylis, Esq., of the Pryor's Bank, Fulham. In the back of it are the arms of Saxony; and it was stated in Germany to have been the electoral chair. The date is about 1620. It is of walnut wood, and the embroidery in the back and seat is of most costly design. The chair is worth a large sum of money. The Pryor's Bank, where it now is, adjoins the river on the Fulham side of Putney-bridge, and has been fitted up by the present estimable proprietor, Mr. Baylis, in the style of past time in a costly manner. It is literally filled with curiosities, and on some future occasion will furnish us with ample materials for an interesting article.

ON THE CONSTRUCTION OF THE HAND-RAILS OF STAIRS.*

THE rules for our guidance in obtaining the moulds requisite for the formation of the hand-rail of a staircase with a level landing, are governed by the same principles as those for a winding staircase. In fig. 13, we have laid down the development of the inclination of the central line of the rail; the line *i l*, in the triangle P, shews the position of the butt joint contiguous to the straight portion of the hand-rail, and the line *g d*, in the triangle O, gives the position of the joint at the end of one-half of the twisted part. The lines *a f*, *b e*, and *d c*, are the three heights by which the position of the cutting plane through the cylinder is obtained; and the line A B C is a line taken through the middle of the rail upon its plan.

In fig. 14, the line *a b c* is the same as A B C in fig. 13, and the lines *a m*, *b l*, and *c k*, are respectively equal to half the heights of the lines *a f*, *b e*, and *c d*, in fig. 13, the line *a m* in the present case is drawn parallel to *c k*, from which by the line *k m n*, intersecting a line drawn through the points *c a*, we determine the point *n* of the insecting line A C′; and the point *o* of the same line is obtained by the intersection of lines drawn through the points *c b* and *k l*. The line A B is drawn at right angles to A C′, and is taken in this case through the centre of the plan of the rail. The triangle A B E is conceived to be turned up, and to stand perpendicularly over the line A B; the point *d* in the line A E is made equal in height to the line *c d* in fig. 13, and the point *f* (measuring from the base line A B) is equal in height to the line *a f* in fig. 13. The surface A E G G is conceived to be turned over as on a hinge upon the line A E until the line A G rests upon the line A C′. We have, in a former article, explained the mode of obtaining the section of a cylinder when cut obliquely by a plane given in any position; the circular line *b c*, joined with the straight part of the line towards the point *a*, may be conceived to form the base of a portion of a solid cylinder, annexed to a portion of a quadrilateral solid, which, when united, forms a plane and cylindric surface coinciding with a vertical surface passing through the middle of the rail. The slanting surface, A G G E, when turned over as above mentioned, will form the cutting plane, or section through the cylinder, and as the foot of this slanting surface, which we have described as its intersecting line with the plane of the base, has been determined by lines drawn down over the points *k m* and *k l*, to the points *n* and *o* on the plane of the base, the slanting surface will pass directly through three resting points each respectively equal in height to the height of the lines *a f*, *b e*, and *c d* in fig. 13; from which the intersecting line A C, in fig. 14, was determined. Upon this slanting surface, which is here shewn in ledgement, the face-mould is laid down, first by ascertaining (as we have already noted) the centre line of the mould, which will rest immediately over the centre line on the plan, and the inner and outer curved lines which form the width of the face-mould are made parallel to the central line, and the ends of the moulds determined in the manner which we shall point out below, and which we think is preferable to the methods propounded in our last article. In this figure the line R S represents the back of a block of wood used in forming the jointing-box, which we shall enter upon in our explanation of fig. 18.

Figs. 15 and 16 are required for explaining the theory of the butt-joints: at first sight they seem difficult and complicated, but when carefully examined and clearly understood, they are easy and simple; both of these figures represent a theorem well known during the last two centuries in ascertaining the bevels for the back of the hip-rafter of the roof of a house, or the bevel of a mill-hopper at right angles to the arris formed by the intersection of two of its surfaces.

In hand-railing, the inclined surfaces of the face of the plank and the face of the butt-joint of the rail, intersect each other, and may be said to form a hip, similar to the intersecting surfaces of the hipped roof, or the angle of the mill-hopper. Let the lines *a b*, *a c*, *a e*, and *b e*, in fig. 15, represent the corresponding lines A B, A C, A E, and B E, when reduced to a smaller scale; let the line *a h* be drawn at the same angle or bevel to the line *a b*, as *p a* is to the line A B in fig. 14, then from the point *b*, in fig. 15, draw the line *b c* square to, or at right-angles to *a h*. By looking carefully at the direction of the line *h a*, in fig. 14, it will be seen to range in the position of a vertical plane passing down the middle of the straight portion of the rail, which plane we have shewn in fig. 13, at the end of the development of the circular face, and on which also is drawn the inclination of the butt-joint, as indicated by the shaded pitch-board marked P. Now, having the foot of the inclined surface of the plank in the line *a c*, and that of the inclined surface of the butt-joint in the line *k c*, or *h c*, the inclination of the slanting surface of the plane of the plank in the line *a e*, when turned up, as on a hinge, until it stands immediately over its base line *a b*; and having likewise the inclination of the surface of the butt-joint, taken on a plane standing perpendicularly on the line *a h*, as shewn by the pitch-board, P, on the same surface in the development, fig. 13; the lines *a c* and *h c* may therefore be compared to the figure of the eaves of a house, where the pitch of the slanting surfaces are shewn by the lines *a e* (fig. 15), and *l i* (fig. 13). We are next to find the bevel of these two surfaces at right angles across the arris of their intersection. Let the line *b e*, when turned up perpendicularly upon the point *b*, be considered to represent the perpendicular of a triangular plane standing upon the line *b c* as a base; also let the line *b f* represent the same perpendicular line and *f c* the hypothenuse of the same triangular plane, which is now conceived to be turned down as on a hinge upon its base line *b c*. The perpendicular line *h i* on the same plane will be the height of the surface of the plank, immediately over the point *h* of its base; and a line conceived to be drawn from the point *i* in this position down to the point *a* will agree with the inclination of the surface of the plank, when taken in the direction of the line *a h*. Let us then conceive this vertical plane upon the line *a h* (which, as we have already noted, is the same vertical plane, as described in fig. 13, as ranging down the middle of the straight portion of the rail), to be turned down as on a hinge upon its base line *a h*, we should then have the triangle *a h k*, wherein the hypothenuse *a k* represents the slope of the plank in the direction of the line *a h*; it is also in this plane that we have the inclination of the butt-joint; we must, therefore, determine the point of intersection of the two inclined planes of the face of the plank, and the face of the butt-joint. Thus, let the pitch-board

* See page 9, ante.